CLAIMS

1. An optical and electrical compound connector enabling to receive and/or transmit light signals and to receive and/or transmit electric signals simultaneously, comprising:

a flexible sheet-shaped base board having a light guide or light guides provided inside thereof along an insertion direction and conductor patterns provided on a surface thereof between a front end and a rear end in the insertion direction, and enabling to transmit the light signals and the electric signals simultaneously;

a connector main body to which the sheet-shaped base board is connected;

a light-sensitive element for receiving the light signals from the light guide of the sheet-shaped base board and/or a light emitting element for transmitting light signals to the light guide of the sheet-shaped base board; and

contacts performing transmission and reception of the electric signals with respect to the conductor patterns of the sheet-shaped base board; and characterized by that:

the connector main body has a first wall and a second wall enclosing the sheet-shaped base board from both side in a thickness direction thereof, and a third wall facing the front end of the sheet-shaped base board in the insertion direction; and

the light-sensitive element and/or the light emitting element and the contacts are/is disposed on any one of the first wall, the

second wall and the third wall.

2. The optical and electrical compound connector in accordance with claim 1, characterized by that

the light-sensitive element and/or the light emitting element are/is disposed on the third wall.

3. The optical and electrical compound connector in accordance with claim 1, characterized by that

the light-sensitive element and/or the light emitting element are/is disposed on the first wall or the second wall; and

a reflection face for optically coupling the light-sensitive element and/or the light emitting element with the light guide or the light guides is disposed on any one on the first wall, the second wall and the third wall on which the light-sensitive element and/or the light emitting element are/is not disposed.

4. The optical and electrical compound connector in accordance with claim 1, characterized by that

the light-sensitive element and/or the light emitting element are/is disposed on the first wall or the second wall; and

the light-sensitive element and/or the light emitting element and the light guides or the light guide are optically coupled with reflection faces or a reflection face formed with processing front faces of the light guides or a front face of the light guide.

5. The optical and electrical compound connector in accordance with claim 1 or 2, characterized by that

the connector main body is comprised of a body having the

first wall and the third wall, and a cover which is attached to the body rotatably between an opened state and a closed state and serves as the second wall;

the contact each having a protrusion formed at a part thereof electrically connected to the conductor patterns of the sheet-shaped base board with electric connection, and the contacts are disposed on the first wall; and

a measure of a clearance between the protrusion and the second wall under a state that the cover is closed without connecting the sheet-shaped base board is smaller than a measure of a thickness of the sheet-shaped base board.

6. The optical and electrical compound connector in accordance with claim 5, characterized by that

under a state that the cover is closed, the cover serving as the second wall comprises:

a contacting piece which contacts the sheet-shaped base board and presses the sheet-shaped base board to the contacts disposed on the first wall;

a curvature portion formed to be bent an extended portion of the contacting piece outward at a position opposite to a side where the third wall is located;

a main cover portion formed with extending the curvature portion to a vicinity of the third wall substantially parallel to the contacting piece; and

rotation shaft portions which are formed to protrude toward the

third wall from end portion of the main cover portion in the side of the third wall, and rotatably borne on the body.

7. The optical and electrical compound connector in accordance with claim 5 or 6, characterized by that

the body comprises a hooking protrusion for hooking the cover under the state that the cover is closed on a side face of the first wall;

the cover is attached to the body rotatably between the opened state and the closed state and movable parallel to the first wall under the state that the cover is closed; and

when the cover is displaced parallel to the first wall under the condition that the cover is closed, it comprises a hook shaped portion for preventing rotation and parallel displacement of the cover with climbing over the hooking protrusion of the body and being hooked with the hooking protrusion.

8. The optical and electrical compound connector in accordance with one of claims 5 to 7, characterized by that

the first wall comprises an engaging portion which is engaged with the sheet-shaped base board for positioning relative locations of them.